

## ABSTRACT

The present invention relates to a wireless home automation system having a controller for controlling a broad variety of functions via two ways communication with a plurality of devices. More specifically, the invention relates to a new and flexible way of establishing a wireless network by using devices which functions as both input/output devices and repeaters. By establishing an even distribution of dual-functionality devices, the user can reach any device without use of dedicated repeater stations. The controllers and devices of the system comprises means for generating a signal comprising a destination identifier, instructions related to the input/output of the destination or source device, and a repeater identifier. The devices according to the invention are adapted to act as input/output devices and signal repeating devices in that the processors of each device comprises means for, upon reception of a signal, processing said information in its processor if the destination identifier corresponds to the device identifier of the device, and means for, upon reception of a signal, transmitting a second signal holding at least said destination identifier and said instruction if the repeater identifier corresponds to the device identifier of the device.